

This Page Is Inserted by IFW Operations
and is not a part of the Official Record

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images may include (but are not limited to):

- BLACK BORDERS
- TEXT CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT
- ILLEGIBLE TEXT
- SKEWED/SLANTED IMAGES
- COLORED PHOTOS
- BLACK OR VERY BLACK AND WHITE DARK PHOTOS
- GRAY SCALE DOCUMENTS

IMAGES ARE BEST AVAILABLE COPY.

**As rescanning documents *will not* correct images,
please do not report the images to the
Image Problem Mailbox.**

What is claimed is:

1. A ventilator circuit for use in administering medication to a patient, the ventilator circuit comprising:
 - 5 a chamber housing defining an interior space and comprising an input end and an output end;
 - a one-way inhalation valve positioned upstream of said interior space, said one-way inhalation valve operative to permit a flow of gases into said interior space of said chamber housing;
 - 10 an inhalation conduit communicating with said output end of said chamber, said inhalation conduit adapted to transmit medication to the patient;
 - an exhaust conduit communicating with said inhalation conduit; and
 - a one-way exhaust valve located in said exhaust conduit, said one-way exhaust valve adapted to prevent a backflow of gas from said exhaust conduit into
 - 15 said inhalation conduit.
2. The ventilator circuit of claim 1 wherein said inhalation conduit is a first inhalation conduit and further comprising a second inhalation conduit communicating with said input end of said chamber housing, wherein said one-way
- 20 inhalation valve is located in said second inhalation conduit.
3. The ventilator circuit of claim 2 further comprising a pressurized metered dose inhaler in flow communication with said chamber housing downstream of said one-way inhalation valve.
- 25
4. The ventilator circuit of claim 3 wherein said second inhalation conduit comprises an adapter having an output end connected to said input end of said chamber housing and an input end connected to an oxygen line, said adapter having said one-way inhalation valve disposed therein.
- 30

5. The ventilator circuit of claim 2 wherein said one-way inhalation valve comprises a valve member, a valve seat and a blocking member disposed in said second inhalation conduit, wherein said blocking member is spaced downstream from said valve seat, and wherein said valve member is disposed between said blocking member and said valve seat.

6. The ventilator circuit of claim 5 wherein said valve member is a center post valve member connected to said valve seat.

7. The ventilator circuit of claim 5 wherein said blocking member has at least one opening formed therein to permit the flow of gases therethrough.

8. The ventilator circuit of claim 1 wherein said inhalation conduit comprises an endotracheal tube.

9. The ventilator circuit of claim 1 wherein said inhalation conduit comprises a mask.

10. The ventilator circuit of claim 1 comprising an adapter connected to said output end of said chamber housing and comprising a first portion defining at least a portion of said inhalation conduit and a second portion defining at least a portion of said exhaust conduit, wherein said one-way exhaust valve is positioned in said second portion of said adapter, and further comprising an exhaust line connected to said second portion and defining at least a portion of said exhaust conduit.

11. The ventilator circuit of claim 10 wherein said first portion defines a first passageway having a first and second channel and wherein said second portion comprises a second passageway, and wherein said adapter further defines a third passageway communicating between said first passageway and second passageways, wherein said one-way exhaust valve is disposed in said second passageway.

12. The ventilator circuit of claim 11 further comprising a connector member connecting said second portion and said exhaust line.

5 13. The ventilator circuit of claim 11 wherein said first channel has a first cross-sectional area and said second channel has a second cross-sectional area, wherein said second cross-sectional area is greater than said first cross-sectional area.

10 14. The ventilator circuit of claim 13 further comprising a shoulder formed at the interface of said first and second channels, and wherein said third passageway communicates with said second channel at said shoulder.

15 15. An adapter for use with a ventilator circuit comprising a chamber having an output end, a patient interface element and an exhaust line, the adapter comprising:

a housing having an input end adapted to be connected to the output end of the chamber, a first output end adapted to be connected to the patient interface element, and a second output end adapted to be connected to the exhaust line, said housing defining first and second passageways, said first passageway extending between said input end of said housing and said first output end of said housing, said first passageway operative to permit the flow of gas from the output end of the chamber housing to the patient interface element, and said second passageway communicating with said first passageway; and

a one-way exhaust valve disposed in said second passageway.

25 16. The adapter of claim 15 wherein said first passageway comprises a first channel communicating with a second channel positioned downstream from said first channel, and wherein said second passageway is in flow communication with said second channel.

17. The adapter of claim 16 wherein said first channel has a first cross-sectional area and said second channel has a second cross-sectional area, wherein said second cross-sectional area is greater than said first cross-sectional area.

5 18. The adapter of claim 17 further comprising a shoulder formed at the interface of said first and second channels, and wherein said second passageway opens into said second channel at said shoulder.

10 19. The adapter of claim 18 wherein said second passageway comprises an arcuate shaped channel opening into said second channel at said shoulder.

20. The adapter of claim 15 wherein said second passageway comprises an arcuate shaped channel communicating with said first passageway.

15 21. The adapter of claim 15 wherein said one-way exhaust valve comprises a center post valve member.

20 22. The adapter of claim 15 wherein said one-way exhaust valve comprises a duck bill valve.

23. The adapter of claim 15 further comprising a connector member connected with said second output end of said housing and adapted to be connected to the exhaust line.

25 24. A method of administering a medication to a patient comprising:
transmitting oxygen from a gas source through a holding chamber and
an inhalation conduit to the patient during an inhalation sequence of a breathing cycle;
introducing said medication into said holding chamber;
preventing a substantial transmission of an exhaust gas into said
30 holding chamber during an exhalation sequence of said breathing cycle;

transmitting a substantial portion of said exhaust gas into an exhaust conduit during said exhalation sequence; and

preventing a substantial transmission of said exhaust gas from said exhaust conduit into said inhalation conduit during subsequent inhalation sequences of subsequent breathing cycles.

25. The method of claim 24 wherein said preventing said substantial transmission of said exhaust gas into said holding chamber during said exhalation sequence comprises creating a back pressure in said holding chamber.

26. The method of claim 25 wherein said creating said back pressure in said holding chamber comprises providing a one-way valve between said gas source and said holding chamber, and preventing the flow of said exhaust gas from said holding chamber toward said gas source with said one-way valve.

27. The method of claim 25 wherein said preventing a substantial transmission of said exhaust gas from said exhaust conduit into said inhalation conduit during subsequent inhalation sequences comprises providing a one-way valve in said exhaust conduit, and preventing the flow of said exhaust gas from said exhaust conduit to said inhalation conduit with said one-way valve.